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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,263	03/04/2002	Jari Ruohonen	460-010860-US(PAR)	6951

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EXAMINER

TRAN, KHANH C

ART UNIT	PAPER NUMBER
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2611

DATE MAILED: 10/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/091,263	Applicant(s) RUOHONEN, JARI	
	Examiner Khanh Tran	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 34,35 and 38 is/are allowed.
- 6) ☒ Claim(s) 1-2,10,13-16,18-24,26-27,32-33 and 36-37 is/are rejected.
- 7) ☒ Claim(s) 3-9,11,12,17,25 and 28-31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Amendment filed on 08/22/2006 has been entered. Claims 1-38 are pending in this Office action.

Response to Arguments

2. Applicant's arguments filed on 08/22/2006 have been fully considered but they are not persuasive after Applicant amended claims. See full explanation in the claim rejection below.

Claim Objections

3. Claim 23 is objected to because of the following informalities: ***Applicant is required to define mode A and mode B in the claim.*** Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2, 10, 18-22, 24, 26-27, 32 and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pecen U.S. 6,603,825 B1 (previously cited).

Regarding claim 1, Pecen teachings apply to General Packet Radio Service (GPRS) in which data packets have variant lengths and variations in the time period between transmission of data packets; see column 1 lines 55-60.

In column 2 line 55 via column 3 line 5, see also FIG. 3, Pecen teaches that a receiver automatic gain control includes a variable gain receiver having a control input and responsive to a gain control signal for adjusting the output level of the receiver. A controller coupled to the variable gain receiver. The controller monitors a received signal quality and a received signal power level. The controller selectively controls the gain as function of the received signal power level and received signal quality. In column 4, lines 1-30, Pecen further teaches that the signal quality measurement made by the remote receiver based on the bit error rate, which indicates whether the data received by receiver 118 is being decoded accurately. In view of that, the data being correctly decoded corresponds to the claimed valid radio blocks.

Pecen does not expressly teach determining continuously a reference level as set forth in the application claim.

In column 6 lines 50-60, Pecen further suggests the receiver 118 (FIG. 3) uses the carrier to interference ratio to set the receiver gain periodically, which helps ensure operation of the receiver amplifiers in the linear region of the transfer curve. Because the receiver 118 determines a BCCH carrier to interference ratio and a TCH carrier to interference ratio (column 8 lines 25-40) and uses those values to set the receiver gain

periodically, one of ordinary skill in the art at the time the invention was made that would have recognized that the BCCH carrier to interference ratio and a TCH carrier to interference ratio are the reference level of the received signal.

In column 8 lines 25-40, Pecan further teaches adjusting a receiver gain of a receiver that receives information on a TCH, in response to the BCCH carrier signal level, and the BCCH carrier to interference ratio reaching a first predetermined value and the TCH carrier to interference ratio reaching a second predetermined value. In view of the foregoing disclosure, by adjusting a receiver gain, the BCCH carrier to interference ratio and the TCH carrier to interference are corrected. Furthermore, as taught in column 7 lines 5-15, the interference measurement is preferably a bit error rate of the received data. The bit error rate determines if the data is decode correctly.

Regarding claim 2, Pecan does not expressly teach the claimed step of correcting the reference level by calculating a running average of the reference level with respect to time as claimed in the application claim.

Figure 4 illustrates a communication system including a local transceiver 102 and remote transceiver 104 and other portable cellular telephones 404-408. In column 5 lines 35-55, Pecan discusses the GPRS data transmission as illustrated in figure 6 in which the time period between packets are separated by intervals that may be milliseconds or hours apart, depending upon the data transfer demands of the mobile application or another mobile's needs. Additionally, the periods for each transmission (labeled "D") are not uniform, although the setup and tear down for each

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packet will be substantially uniform. Further in column 6 lines 60-67, because Pecen further discloses that the GSM GPRS specification requires that the radiotelephones 104, 404, 405 take signal measurements repeatedly and communicate this information to the base station, one of ordinary skill in the art would have been motivated to modify Pecen receiver to calculate long-term average of the signal quality measurement with respect to time. The modification is necessary due to non-uniformity of the periods for each transmission.

Regarding claim 10, in column 5 lines 25-40, Pecen teaches that each transfer of data from the local transceiver to the remote transceiver in GPRS system is accomplished using packets having a setup sequence, data, and a tear down sequence, as represented in FIG. 5. In light of the foregoing, the setup sequence received at intervals of a predetermined period is for synchronization between the local transceiver to the remote transceiver.

Regarding claim 18, as disclosed in column 2 line 60 via column 3 line 5, the receiver controller selectively controls the gain as function of the received signal power and received signal quality to insure operation in the linear portion of the received amplifiers. The non-linear portion of the received amplifiers represents the state when clipping occurs in the reception of the received signal power.

Regarding claim 19, as recited in claim 1, the receiver 118 determines a BCCH carrier to interference ratio and a TCH carrier to interference ratio (column 8 lines 25-40) and uses those values to set the receiver gain periodically. Pecan further teaches adjusting a receiver gain of a receiver that receives information on a TCH, in response to the BCCH carrier signal level, and the BCCH carrier to interference ratio reaching a first predetermined value and the TCH carrier to interference ratio reaching a second predetermined value. In view of the foregoing disclosure, by adjusting a receiver gain, the BCCH carrier to interference ratio and the TCH carrier to interference are corrected. Furthermore, as taught in column 7 lines 5-15, the interference measurement is preferably a bit error rate of the received data. The bit error rate determines if the data is decoded correctly.

Regarding claim 20, Pecan teachings apply to GPRS system and FIG. 1 discloses a BTS and a MS in GPRS system 100.

Regarding claim 21, claim is rejected on the same ground as for claim 1 because similar scope.

Regarding claim 22, as recited in claim 1, TCH channel is traffic channel.

Regarding claim 24, claim is rejected on the same ground as for claim 1 because similar scope.

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Regarding claim 26, in column 8 lines 45-65, Pecen further teaches that setting a receiver gain based on said measured BCCH carrier signal level, BCCH carrier to interference ratio and said determined mathematical and logical relationship in the absence of any signal transmitted on the traffic channel. Hence, the absence of any signal transmitted on the traffic channel defines the predetermined intervals.

Regarding claim 27, claim is rejected on the same ground as for claim 20 because similar scope.

Regarding claim 32, claim is rejected on the same ground as for claim 19 because similar scope.

Regarding claim 36, claim is rejected on the same ground as for claim 18 because similar scope.

Regarding claim 37, claim is rejected on the same ground as for claim 19 because similar scope.

5. Claim 13-16, 23 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pecen U.S. Patent 6,603,825 B1 (previously cited) as applied to claims 1 and 10 above, and further in view of admitted prior art in the original disclosure.

Regarding claim 13, in column 5 lines 45-55, Pecen teaches in GPRS, there are times when the mobile radiotelephones 104, 404, 405 may be required to listen to all down link data blocks to decode the address fields, which is the method by which a mobile determines if a data block was intended for it.

Pecen, however, does not disclose interpreting transmission power information contained in the valid block as set forth in the application claim.

Admitted prior art in the original disclosure discloses on pages 4 and 6 that for multiple access in D communication, a temporary flow identifier TFI is used in the data header. Each RLC header contains a TFI, which is used to indicate the blocks addressed to a specific, given mobile station MS. Each block of the PDTCH/D channel contains a PR field in the MAC header to indicate the power level of said block, if it is in use and power control is used. According to the GPRS system, all the communication devices MS, which are waiting for data transmitted to them on the channel jointly allocated to them, receive all the blocks, including the RLC blocks, interpret the received information and the TFI, and select the blocks addressed to them.

Pecen and admitted prior art are in the same field of endeavor. Admitted prior art discloses the specification standard in GPRS system as recited above. As discussed in Pecan invention, because the primary purpose of power control is to reduce the amount of average RF energy radiated around the antenna 138 of a base station incorporating local transceiver 102, thereby reducing the amount of co-channel interference to mobiles 104, 404 and 405 sharing the same channel (see column 5 lines 50-65), therefore, it would have been obvious for one of ordinary skill in the art at the time the

invention was made that Pecan teachings can be modified to implement the power control modes as discussed in known method.

Regarding claim 14, as disclosed on pages 4-5, admitted prior art discloses that In digital TDMA systems, such as the GSM system, the mobile communication device continuously measures the signal strength on radio channels of the serving base station and the adjacent base stations, and transmits a measuring report to the base station. Power control refers, for example, to the transmission power level used by the BTS for transmitting a radio signal to the MS. Hence, the MS knows when the transmission power varies and the transmission power of the radio blocks vary according to power control.

Regarding claim 15, using similar reasoning as recited in claim 14 rejection, because each block of the PDTCH/D channel contains a PR field in the MAC header to indicate the power level of said block, if it is in use and power control is used, the mobile station knows when the transmission power remains the same among recipients and the transmission power of the radio blocks vary.

Regarding claim 16, claim is rejected on the same ground as for claims 14-15 because of similar scope. Because each block of the PDTCH/D channel contains a PR field in the MAC header to indicate the power level of said block, if it is in use and power

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control is used, the mobile station knows when the transmission power remains the same among recipients and the transmission power of the radio blocks remain constant.

Regarding claim 23, Pecen does not teach the predetermined way as set forth in the application claim.

Admitted prior art, on page 6 in the original disclosure, discusses in a known manner, two different control modes are used for the power control of the PDCH blocks: Mode A, and Mode B when fixed allocation is used only. In Mode A, the variation in the output power of the BTS is limited, whereas in Mode B, the whole range of variation of the output power of the BTS is in use. Pecen and admitted prior art are in the same field of endeavor. As discussed in Pecen invention, because the primary purpose of power control is to reduce the amount of average RF energy radiated around the antenna 138 of a base station incorporating local transceiver 102, thereby reducing the amount of co-channel interference to mobiles 104, 404 and 405 sharing the same channel (see column 5 lines 50-65, it would have been obvious for one of ordinary skill in the art at the time the invention was made that Pecen teachings can be modified to implement the power control modes as discussed in known method.

Regarding claim 33, claim is rejected on the same ground as for claim 13 because similar scope.

Allowable Subject Matter

6. Claims 3-9, 11-12, 17, 25, 28-31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claim 34 is allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 34, claim is allowable over prior art of record because the cited references cannot teach or suggest "correcting the reference level on the basis of a signal strength of the broadcasting channel measured during the reception of the signal of the broadcasting channel, if the valid radio block has not been received during a predetermined period of time, wherein said predetermined period of time is a period comprising 18 successive radio blocks in the GPRS network".

8. Claim 35 is allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 35, claim is allowable over prior art of record because the cited references cannot teach or suggest "correcting the reference level on the basis of the maximum signal strength measured from incorrectly received radio blocks, if, within a

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predetermined period of time, no valid radio blocks have been received during the maximum interval of occurrence of reference blocks".

9. Claim 38 is allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 38, claim is allowable over prior art of record because the cited references cannot teach or suggest "selecting, for the determination, such valid radio blocks which are received at intervals of a predetermined period, for synchronization of the receiver and a communication network, wherein said predetermined period of time is a period comprising 18 successive radio blocks in the GPRS network".

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 571-272-3007. The examiner can normally be reached on Monday - Friday from 08:00 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KCT

A handwritten signature in black ink, appearing to read "Khanh Cong Tran", with a stylized flourish at the end.

Khanh Tran

Primary Examiner